



Ensuring communication among first responders, especially during a crisis situation, is a major challenge for public safety agencies. Interoperability is critical for success. The Cisco® Mobile Command Vehicle (MCV) is a mobile communication center that is designed to quickly establish interoperable communications in emergency situations. The MCV is supported by Cisco Tactical Operations, a highly skilled and dedicated team that can mobilize and respond to natural disasters and other catastrophes when normal communications infrastructure have been degraded or destroyed.

Rapidly Deployable Field Mobile Communications

The Cisco MCV is a command and communications resource for first responders, critical infrastructure, and other organizations that have been affected by a catastrophic event and require mission-critical networking to recover normal operations. It exceeds the National Incident Management System (NIMS) standards for Type IV Mobile Communication Centers.

The Cisco MCV, along with its NIMS certified team, helps organizations by:

- Arriving rapidly for disaster response missions ready for continuous operations without impacting already challenged resources.
- Operating seamlessly with police, fire, emergency medical services, National Guard, and other responders within an incident command system or unified command structure.
- Receiving 24-hour, proactive intelligence and logistical support from the Cisco Security Facilities Operations Centers (SFOC).

The Cisco MCV and Tactical Operations team have been deployed in support of a variety of incidents, including planned and unplanned events. The MCV scales well to post-impact hurricanes, tornadoes, floods, earthquakes, wildfires and man-made disasters. This platform is a popular choice for first response and business resiliency in either Van or Sport Utility Vehicle (SUV) form factors.

Deploy and Redeploy with Confidence

In a crisis situation it is imperative that field communications be highly mobile and rapidly deployable. The Cisco MCV meets these demands by being a self-contained vehicle in which all technology travels together as a preconfigured package. Once on scene, the Cisco MCV can:

- Be fully operational within 15 minutes
- Be shut down within 15 minutes in order to redeploy to another location
- Power its systems using its on-board generator and fuel source, or a shore power connection to an external power source

Enable Communications via IP-Based Network

The Cisco MCV uses an IP-based network foundation because large-scale disasters require a range of interoperable communications beyond traditional push-to-talk (PTT) radio. IP-based communications ensure that the team can:

- Engage and employ all resources on scene, regardless of where those resources geographically reside
- Interoperate with existing communications systems while providing a path to emerging network-centric communications systems



Figure 1: Cisco Mobile Command Vehicle



Figure 2: The engineering section of the Cisco MCV brings together complementary technologies and solutions to provide situational awareness for the command staff.

Fault-Tolerant Redundant Internet Uplink

The Cisco MCV has multiple options for Internet connectivity, including satellite, cellular, and landline. It can be manually configured to failover from one connectivity source to another, providing an effective level of fault tolerance and the most efficient use of bandwidth.

The .96 meter satellite dish provides up to 3 Mbps of bandwidth for voice, video, and data applications that require access to the Internet or other remote networks. It delivers these advantages:

- Auto-acquire capability of the control unit which eliminates the need for the vehicle crew to manually point the dish to the correct azimuth and elevation
- Cisco Wide Area Application Services (WAAS) technology which helps maximize network performance across the satellite WAN link

Wired and Wireless Network Infrastructure

The core network of the Cisco MCV consists of Cisco Integrated Services Routers, which provide highly secure virtual private network (VPN) tunneling services to back-end resources, firewall, and telephony services using Cisco Unified Communications Manager Express, and controllers for the wireless network infrastructure. Wireless network services are provided by Cisco Wireless Access Points in the interior of the vehicle and Cisco Wireless Mesh Access Points on the exterior of the vehicle.

Radio and Voice Interoperability

Responders often struggle with different frequency bands and proprietary radio protocols. Cisco Instant Connect uses the Land Mobile Radio (LMR) feature set in Cisco IOS software and the numerous radio systems on the Cisco MCV to enable radio interoperability across all existing radio technologies.

Voice over IP

The Cisco MCV provides a full suite of telephony services through the Cisco Unified Communications Manager Express software, which enables voice communications over wired and wireless Cisco Unified IP Phones.

Network-Based Video Surveillance

Video surveillance increases the situational awareness of field personnel and commanders by enabling them to observe nearby activities. The Cisco Video Surveillance Manager solution leverages IP-based cameras into a unified monitoring and collection environment.

High-Definition Video Conferencing

The conference room on the Cisco MCV is equipped with a Cisco TelePresence video conferencing solution. The Cisco TelePresence solution enables leaders and remote personnel to quickly and easily have high-definition, high-security video conferencing and collaboration.

Why Cisco?

- Cisco is a leader in providing the intelligent, secure, resilient network infrastructure with mobility that is the platform for this solution.
- Cisco is a leader in unified communications, which is core to the solution and uses the network as the platform.
- Cisco has a proven record in introducing technologies in the safety and security market that easily integrate with Cisco network architecture.
- Cisco collaborates with safety and security technology partners to meet your requirements for a converged network solution.



Figure 3: The Cisco MCV enables decision makers to manage crises with a range of best-in-breed voice, video, radio and data communications at their disposal.

Learn More

The Cisco MCV is available for emergency response throughout the continental United States during the acute phase of an emergency. To engage the Cisco MCV, or any of the other services provided by Cisco Tactical Operations, please contact your Cisco account team.

For more information about the Cisco Tactical Operations team, please visit our website <http://www.cisco.com/go/tacops>, or send email to tacops-info@cisco.com.